

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-19 (canceled)

Claims 20-29 (previously canceled)

Claim 30 (currently amended) A method of producing a transgenic alkaloid producing poppy plant of the *Papaver somniferum* species comprising the steps of:

- 1) introducing exogenous nucleic acid for conferring a selected property on the transgenic plant into transformable poppy plant material of the *Papaver somniferum* species in the presence of a buffering agent which maintains the pH of the plant material or culture medium ~~for culturing the plant medium~~ within a range of pH 5.5 to pH 6.5;
- 2) culturing the plant material in the presence of the buffering agent; and
- 3) generating the transgenic plant from the plant material.

Claim 31 (previously presented) A method of transforming an alkaloid producing poppy plant of the *Papaver somniferum* species comprising the step of introducing exogenous nucleic acid for conferring a selected property on the transgenic plant into transformable plant material of the poppy plant in the presence of a buffering agent which maintains the pH of the plant material or culture medium for culturing the plant medium within a range of pH 5.5 to pH 6.5.

- Claim 32. (previously presented) A method of producing a transgenic alkaloid producing poppy plant of the *Papaver somniferum* species from transformable poppy plant material harbouring exogenous nucleic acid for conferring a selected property on the transgenic plant, comprising the steps of:
- 1) culturing the plant material in culture medium in the presence of a buffering agent which maintains the pH of the plant material or culture medium for culturing the plant medium within a range of pH 5.5 to pH 6.5; and
 - 2) generating the transgenic plant from the plant material.
- Claim 33 (currently amended) The method according to claim 31 wherein the transformable poppy plant material is ~~derived~~ selected from seeds, imbibed seeds ~~or~~ and seedling parts of the plant.
- Claim 34 (currently amended) The method according to claim 31 wherein the transformable poppy plant material is selected from the group consisting of seed explant, seedling explant, type I callus, type II callus, somatic embryogenic callus, ~~any culture which gives rise to somatic embryos, any culture which gives rise to shoots~~ and plant tissues.
- Claim 35 (previously presented) The method according to claim 31 wherein the buffering agent is selected from the group consisting of 2-[N-morpholino]ethane sulfonic acid buffer (MES), N-[2-acetamido]-2-iminodiacetic acid buffer (ADA) and bis[2-hydroxyethyl]iminotris-[hydroxymethyl]methane buffer (BIS-TRIS), and a buffer having an ammonium and nitrate ions content in a predetermined ratio.
- Claim 36 (previously presented) The method according to claim 31 wherein the exogenous nucleic acid is introduced into plant cells by a plant transformation agent.

- Claim 37 (previously presented) The method according to claim 36 wherein the transformation agent is *Agrobacterium tumefaciens*.
- Claim 38 (previously presented) The method according to claim 31 wherein the exogenous nucleic acid is introduced using a mechanical method.
- Claim 39 (previously presented) The method according to claim 38 wherein the mechanical method is microparticle bombardment.
- Claim 40 (previously presented) The method according to claim 31 wherein the exogenous nucleic acid encodes a mRNA or protein that confers on the transgenic plant a property selected from the group consisting of:
increased alkaloid yield relative to the native alkaloid producing plant,
increased herbicide resistance relative to the native alkaloid producing plant, increased soil acidity tolerance relative to the native alkaloid producing plant, increased disease resistance relative to the native alkaloid producing plant, increased insect resistance relative to the native alkaloid producing plant, increased growth rate relative to the native alkaloid producing plant, improved flowering properties relative to the native alkaloid producing plant, increased frost tolerance relative to the native alkaloid producing plant and altered alkaloid proportions relative to the native alkaloid producing plant.
- Claim 41 (previously presented) The method according to claim 31 wherein the exogenous nucleic acid encodes a mRNA or protein that confers on the transgenic poppy the property of altered alkaloid proportions relative to the native alkaloid producing plant.

- Claim 42 (previously presented) The method according to claim 31 wherein the exogenous nucleic acid encodes a mRNA or protein that confers on the transgenic poppy the property of herbicide resistance.
- Claim 43 (previously presented) The method according to claim 42 wherein the herbicide resistance is selected from the group consisting of Basta herbicide resistance, glyphosate resistance, bromoxynil resistance and sulfonylurea resistance.
- Claims 44-46 (canceled).